USRobotics®

COURIER HST™

9600/2400/1200/300 BPS MODEM

QUICK-REFERENCE CARD

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COURIER HST
Quick-Reference Card

COMMAND REQUIREMENTS

- Type commands in upper or lower case.
- All commands except A/, A> and + + + are preceded by the AT prefix and executed with a Carriage Return (<cr>).
- Command length = 40 characters, maximum. The modem does not count the AT prefix, Carriage Return, or spaces.

COMMAND EXAMPLES

1. ATD1234567 <cr>

If set to X0 or X1, dial the number using the default (initial) dialing type (pulse) or the type set for the previous call. If set to X2 or higher, use adaptive dialing.

2. ATM0 X4 D 1234567 W 1234,,13121234567 <cr>

Disable the speaker (M0). Return call-progress code NO DIAL TONE or BUSY (X4); also use adaptive dialing (X2 or above). Dial the number of the long-distance phone service (D); wait for a second dial tone (W); dial the password; wait four seconds (,,); then dial the long-distance number.

BASIC COMMAND SET

Command/ Options	Function
&	See Extended Command Set.
A	Force Answer Mode when modem hasn't received an incoming call.
A/	Re-execute last command once.
A>	Repeat last command continuously.
Any key	Terminate current dialing operation resulting from issued Dial command; exit Repeat Mode.
AT	Attention: *must* precede all other commands, except A/, A> and + + +.
B*n*	U.S./CCITT answer sequence. B0 CCITT answer sequence B1 U.S. answer sequence—Default
C*n*	Transmitter enabled/disabled. C0 Transmitter disabled C1 Transmitter enabled—Default
D	Dial the number that follows and go into Originate Mode. Use any of the following options: P Pulse dial—Default T Touch-Tone dial , (Comma) Pause for 2 seconds ; Return to command state after dialing "... Dial the letters that follow ! Flash switch-hook to transfer call W Wait for second dial tone (if X3 or higher is set) @ Wait for an answer (if X3 or higher is set) R Reverse frequencies
DS*n*	Dial number stored in NRAM at position *n*.
E*n*	Command Mode local echo: display copy of modem commands entered at the keyboard. (Not applicable once a connection has been made.) See DIP switch 4. E0 Echo OFF E1 Echo ON
F*n*	Local echo ON/OFF once a connection has been established. F0 Echo ON (Half Duplex) F1 Echo OFF (Full Duplex)—Default
H*n*	On/off hook control. H0 Hang up (go on hook)—Default H1 Go off hook
I*n*	Inquiry. I0 Return product code I1 Return memory (ROM) checksum I2 Run memory (RAM) test I3 Return call duration/real time I4 Return current modem settings I5 Return NRAM settings I6 Return link diagnostics I7 Return product configuration
K*n*	Modem clock operation. K0 At ATI3, display call duration—Default K1 At ATI3, display real time; set clock with ATI3=HH:MM:SSK1
M*n*	Monitor (speaker) control. M0 Speaker always OFF M1 Speaker ON until carrier is established—Default M2 Speaker always ON M3 Speaker ON after last digit dialed, OFF at carrier detect
O	Return online after command execution.
P	Pulse dial.
Q*n*	Quiet Mode: result codes displayed/suppressed. See DIP switch 3. Q0 Result codes displayed Q1 Result codes suppressed
S*r*=*n*	Set Register commands: *r* is any S-register; *n* must be a decimal number between 0 and 255.
S*r*?	Query register *r*.
T	Tone dial.
V*n*	Verbal/Numeric result codes. See DIP switch 2. V0 Numeric Mode V1 Verbal Mode
X*n*	Result Code options. Use the Options Table on this reference card. Default is Extended set, codes 0-5, 10, 13.
Z	Reset modem to NRAM defaults.
+ + +	Escape code sequence, preceded and followed by at least one second of no data transmission. See DIP switch 9.
>	Repeat command continuously or up to 10 dial attempts. (Cancel by pressing any key.)
$	Help Basic command summary.
&$	Help Extended command summary.
D$	Help Dial command summary.
S$	Help S-register summary.

EXTENDED COMMAND SET

Command/ Options	Function
&A*n*	Enable/disable /ARQ result codes 15–17. &A0 Suppress /ARQ result codes &A1 Display /ARQ result codes—Default
&B*n*	Data Rate, terminal-to-modem (DTE/DCE). &B0 DTE rate follows connection rate—Default &B1 Fixed DTE rate
&F	Load factory settings into random access memory (RAM).
&G*n*	Guard tone. &G0 No guard tone, U.S., Canada—Default &G1 Reserved &G2 Guard tone, U.K.
&H*n*	Transmit Data flow control. &H0 Flow control disabled—Default &H1 Hardware (CTS, Pin 5) flow control &H2 Software (XON/XOFF) flow control &H3 Hardware and software control
&I*n*	Received Data software flow control. &I0 Flow control disabled—Default &I1 XON/XOFF to local modem and remote computer &I2 XON/XOFF to local modem only &I3 Host mode, Hewlett Packard protocol &I4 Terminal mode, Hewlett Packard protocol &I5 ARQ mode—same as &I2; non-ARQ mode—look for incoming XON/XOFF
&K*n*	Data compression. &K0 Disabled &K1 Auto enabled/disable—Default &K2 Enabled
&M*n*	Normal or Error Control Modes. &M0 Normal Mode &M4 Normal/ARQ Mode—Normal if ARQ connection cannot be made—Default &M5 ARQ Mode—hang up if ARQ connection cannot be made.
&N*n*	Data Rate, data link (DCE/DCE). &N0 Normal link operations—Default &N1 300 bps &N4 4800 bps &N2 1200 bps &N5 7200 bps &N3 2400 bps &N6 9600 bps
&P*n*	Pulse dial make/break ratio. &P0 North America—Default &P1 British Commonwealth
&R*n*	Received Data hardware (RTS, Pin 4) flow control. &R0 Reserved &R1 Ignore RTS—Default &R2 Pass received data on RTS high; used only if terminal equipment supports RTS (Pin 4)
&S*n*	Data Set Ready (DSR, Pin 6) override. &S0 DSR override (always ON—Default) &S1 Modem controls DSR
&W	Write current settings to NRAM.

EXTENDED COMMAND SET

Command/ Options	Function
&Y*n*	Break handling. Destructive Breaks clear the buffer; expedited Breaks are sent immediately to the remote system. &Y0 Destructive, but don't send Break &Y1 Destructive, expedited—Default &Y2 Nondestructive, expedited &Y3 Nondestructive, unexpedited; modem sends Break in sequence with data received from terminal equipment
&Z*n*=*s*	Write phone number (*s*) to NRAM at position *n* (0–3). 36 characters maximum.
&Z*n*?	Display phone number stored in NRAM at position *n*.

RESULT CODES OPTIONS TABLE

	Commands X0	X1	X2	X3	X4	X5	X6	X7
Result Codes								
0/OK	X	X	X	X	X	X	X	X
1/CONNECT	X	X	X	X	X	X	X	X
2/RING	X	X	X	X	X	X	X	X
3/NO CARRIER	X	X	X	X	X	X	X	X
4/ERROR	X	X	X	X	X	X	X	X
5/CONNECT 1200		X	X	X	X	X	X	X
6/NO DIAL TONE			X		X		X	X
7/BUSY				X	X	X	X	X
8/NO ANSWER				X	X	X	X	X
9/Reserved								
10/CONNECT 2400		X	X	X	X	X	X	X
11/RINGING						X	X	X
12/VOICE						X	X	
13/CONNECT 9600		X	X	X	X	X	X	X
Functions								
Adaptive Dialing			X	X	X	X	X	X
Wait for 2nd Dial Tone (W)				X	X	X	X	X
Wait for Answer (@)				X	X	X	X	X
Fast Dial			X		X		X	X

NOTE: Use the &A command to enable/disable the following ARQ codes. Default is &A1, enabled.

15/CONNECT 1200/ARQ
16/CONNECT 2400/ARQ
17/CONNECT 9600/ARQ

FRONT END INDICATORS

Symbol	Meaning
HS	High Speed
AA	Auto Answer/Answer
CD	Carrier Detect
OH	Off Hook
RD	Receive Data
SD	Send Data
TR	Terminal Ready
MR	Modem Ready/Power
RS	Request to Send
CS	Clear to Send
ARQ	Error Control
AL	Analog Loopback

DIP SWITCHES: UP = OFF DOWN = ON

Switch	Factory Setting	Function
1	DOWN	Data Terminal Ready Override
	UP	DTR normal; RS-232C Pin 20 controls modem
	DOWN	DTR always ON (override)
2	UP	Verbal/Numeric Result Codes
	UP	Verbal (word) messages
	DOWN	Numeric result codes
3	DOWN	Result Code Display
	UP	Quiet mode, no display
	DOWN	Result codes displayed
4	UP	Command Mode Local Echo
	UP	Modem echoes (displays) commands
	DOWN	Modem does not echo
5	DOWN	Auto Answer
	UP	Modem answers on first ring
	DOWN	Auto Answer Suppressed
6	DOWN	Carrier Detect Override
	UP	RS-232C Pin 8 indicates modem is on-line and a carrier data signal is present
	DOWN	Carrier Detect signal always ON (override)
7	UP	Single/Multiphone Installation
	UP	Single phone connection (RJ11 jack)
	DOWN	Multiple phone installation (RJ12 or RJ13 jack)
8	DOWN	'AT' Command Set Recognition
	UP	AT command set recognition disabled
	DOWN	Normal operations
9	DOWN	Escape Code (+ + +) Response
	UP	Modem disconnects, returns to Command Mode, returns NO CARRIER result
	DOWN	Modem keeps line open, returns to Command Mode, returns OK result
10	UP	Power-on Software Defaults
	UP	Load from NRAM
	DOWN	Load factory settings
Quad Switch	UP	Send/Receive Operations, Terminal to Modem
	UP	Normal assignments: Pin 2, transmit to modem; Pin 3, receive from modem
	DOWN	Alternate assignments: Pin 2, receive from modem; Pin 3, transmit to modem

S-REGISTERS

Register	Function	Default
S0	Set number of rings before automatic answering when DIP switch 5 is UP. Default = 1. S0=0 suppresses Auto Answer, equivalent to DIP switch 5 DOWN.	See DIP Switch 5
S1	Counts and stores number of rings from an incoming call.	0
S2	Define escape code character. Default = +.	43
S3	Define ASCII Carriage Return.	13
S4	Define ASCII Line Feed.	10
S5	Define ASCII Backspace.	8
S6	Set number of seconds modem waits before dialing.	2
S7	Set number of seconds modem waits for a carrier.	30
S8	Set duration, in seconds, for pause (,) option in Dial command and pause between command re-executions for Repeat (>) command.	2
S9	Set duration, in tenths of a second, of remote carrier signal before recognition.	6
S10	Set duration, in tenths of a second, modem waits after loss of carrier before hanging up.	7
S11	Set duration and spacing, in milliseconds, of dialed Touch-Tones.	70
S12	Define guard time, in 50ths of a second, for escape code sequence.	50
S13	Bit-mapped register: 1 Reserved 2 Auto Answer in Originate Mode 4 Disable result code pause 8 DS0 on DTR low-to-high 16 DS0 on power up, ATZ 32 Reserved 64 Disable MNP Level 3 128 Watchdog hardware reset	0
S14	Reserved.	
S15	Bit-mapped register: 1 Disable high-frequency equalization 2 Disable 7200/4800 bps fallback 4 Force 300-bps back channel 8 Set non-ARQ Transmit buffer to 128 bytes 16 Disable MNP Level 4 32 Set Del as Backspace key 64 Unusual MNP incompatibility 128 Interbridge network compatibility	0
S16	Modem self-testing 0 Data mode (no testing) 1 Analog Loopback 2 Dial Test 4 Test Pattern 5 Analog Loopback & Test Pattern	0
S17	Received ARQ Link Disconnect reason.	0

S-REGISTERS

Register	Function	Default
S18	Reserved.	
S19	Set Inactivity Timer, minutes.	0
S20	NO CARRIER reason: 0 Key press abort 1 DTR dropped 2 Ecape code sent (+ + +) 3 Loss of carrier 4 Inactivity timeout 5 &M5 automatic hangup 6 ARQ retry timeout 7 Received Link Disconnect	
S21	Length of Break, DCE to DTE, in 10-millisecond units.	10
S22	Define ASCII XON.	17
S23	Define ASCII XOFF.	19

RS-232C INTERFACE PIN DEFINITIONS

Pin	Assignment	Signal Flow
2	Transmit Data	Terminal → Modem
3	Receive Data	Terminal ← Modem
4	Request to Send	Terminal → Modem
5	Clear to Send	Terminal ← Modem
6	Data Set Ready	Terminal ← Modem
7	Signal Ground	Terminal ↔ Modem
8	Carrier Detect	Terminal ← Modem
12	Speed Indicate	Terminal ← Modem
20	Data Terminal Ready	Terminal → Modem
22	Ring Indicate	Terminal ← Modem

ASCII CHART

DEC	HEX	CHAR	DEC	HEX	CHAR	DEC	HEX	CHAR	DEC	HEX	CHAR
00	00	NUL	32	20	SP	64	40	@	96	60	`
01	01	SOH	33	21	!	65	41	A	97	61	a
02	02	STX	34	22	"	66	42	B	98	62	b
03	03	ETX	35	23	#	67	43	C	99	63	c
04	04	EOT	36	24	$	68	44	D	100	64	d
05	05	ENQ	37	25	%	69	45	E	101	65	e
06	06	ACK	38	26	&	70	46	F	102	66	f
07	07	BEL	39	27	'	71	47	G	103	67	g
08	08	BS	40	28	(	72	48	H	104	68	h
09	09	HT	41	29	)	73	49	I	105	69	i
10	0A	LF	42	2A	*	74	4A	J	106	6A	j
11	0B	VT	43	2B	+	75	4B	K	107	6B	k
12	0C	FF	44	2C	,	76	4C	L	108	6C	l
13	0D	CR	45	2D	-	77	4D	M	109	6D	m
14	0E	SO	46	2E	.	78	4E	N	110	6E	n
15	0F	SI	47	2F	/	79	4F	O	111	6F	o
16	10	DLE	48	30	0	80	50	P	112	70	p
17	11	XON	49	31	1	81	51	Q	113	71	q
18	12	DC2	50	32	2	82	52	R	114	72	r
19	13	XOFF	51	33	3	83	53	S	115	73	s
20	14	DC4	52	34	4	84	54	T	116	74	t
21	15	NAK	53	35	5	85	55	U	117	75	u
22	16	SYN	54	36	6	86	56	V	118	76	v
23	17	ETB	55	37	7	87	57	W	119	77	w
24	18	CAN	56	38	8	88	58	X	120	78	x
25	19	EM	57	39	9	89	59	Y	121	79	y
26	1A	SUB	58	3A	:	90	5A	Z	122	7A	z
27	1B	ESC	59	3B	;	91	5B	[	123	7B	{
28	1C	FS	60	3C	<	92	5C	\	124	7C	|
29	1D	GS	61	3D	=	93	5D	]	125	7D	}
30	1E	RS	62	3E	>	94	5E	^	126	7E	~
31	1F	US	63	3F	?	95	5F	_	127	7F	DEL